RESEARCH REPORT

THE ADJUSTMENT OF THE ELDERLY TO CONGREGATE CARE HOUSING

EXTERNAL
RESEARCH
PROGRAM

CMHC SCHL

HOME TO CANADIANS
Canada

CMHC—Home to Canadians

Canada Mortgage and Housing Corporation (CMHC) is home to Canadians. In everything we do, we help Canadians live in safe, secure homes. As the Government of Canada's national housing agency, we play a major role in Canada's housing industry. CMHC develops new ways to finance home purchases. We encourage innovation in housing design and technology. Our mortgage loan insurance helps Canadians realize their dream of owning a home.

Canadians benefit from our work with public, private and not-for-profit partners to improve the quality, accessibility and affordability of housing everywhere in Canada.

CMHC assistance helps low-income and older Canadians, people with disabilities and Aboriginals live in decent, affordable homes. We create jobs for Canadians with products and services that help the housing industry export its knowledge and skills to other countries.

CMHC's leading-edge research improves the quality and affordability of housing. To help Canadians benefit from our housing expertise and make informed decisions, CMHC has become Canada's largest publisher of housing information. We also have Canada's most comprehensive selection of information about homes and housing.

Canadians can easily access our information through retail outlets and CMHC's regional offices.
You can also reach us by phone at
1 800 668-2642 (outside Canada, (613) 748-2003)
by fax at (613) 748-4069
To reach us online, visit our home page at www.cmhc-schl.gc.ca

Canada Mortgage and Housing Corporation supports the Government of Canada policy on access to information for people with disabilities. If you wish to obtain this publication in alternative formats, call 1 800 668-2642.

100-06833/

THE ADJUSTMENT OF THE ELDERLY TO CONGREGATE CARE HOUSING

August, 1999

by

Robert Gifford, Ph.D.
for
Optimal Environments, Inc.

One of the ways CMHC contributes to the improvement of housing and living conditions in Canada is by communicating the results of its research. Contact CMHC for a list of available information products on a variety of social, economic, environmental and technical housing-related topics.

Phone 1-800-668-2642 or visit us on the World Wide Web: www.cmhc-schl.gc.ca

Cette publication est aussi disponsible en francais sous le titre [le titre...]

Colophon Page

This project was funded by Canada Mortgage and Housing Corporation (CMHC) but the views expressed are the personal views of the author and CMHC accepts no responsibility for them.

PURPOSE

This study was conducted in order to begin the development of a model for predicting the adjustment of the elderly to congregate care. It used interviews and observations to examine key personal and environmental factors that might form part of such a model. The long-term goals are to identify specific features of congregate care residences that facilitate adjustment for virtually all residents, and to develop an instrument that would be useful as a device for optimally matching resident and residence for other features of residences that are differentially helpful to potential residents.

ACKNOWLEDGEMENTS

The author wishes to acknowledge the invaluable assistance of Ms. Auburn Cowman, without whom this project could not have been completed, and that of CMHC for supporting the idea.

EXECUTIVE SUMMARY

This study proposed and tested a model to predict which elderly persons will adjust well to which forms of congregate care housing. Congregate care is defined as multi-unit residential housing for seniors who are physically and mentally healthy, but require some non-medical support services. Within this definition, however, various housing forms and available services exist, and of course individuals vary in many ways. The study's specific goal was to discover some (a) aspects of congregate care housing that promote positive adjustment for virtually all residents, (b) resident characteristics associated with satisfaction regardless of building, and (c) salubrious combinations of building and resident characteristics associated with positive resident adjustment.

The ultimate practical goal, for which this study is a first step, is to develop an assessment device that will predict which persons will better adjust to which forms of congregate care housing. The present study's goal is more modest: to determine which factors are significant predictors of adjustment to different existing forms of congregate care. It is important to correctly match each person with the most appropriate type of residence in order to maximize her or his adjustment. A prediction tool for this purpose would be valuable because it should reduce the number of ill-advised selections of a residence.

In some ways, adjustment to congregate care is similar to adjustment to other changes in life. To determine which of several potential factors are most related to adjustment, this study adapted a model previously found to successfully predict adjustment to a chronic illness (Eso & Gifford, 1998). Its goal is to determine whether a similar model can be used to describe and significantly predict adjustment to congregate care.

To investigate the model, two interviews with elderly persons who had recently entered congregate care were conducted. The first assessed a number of factors that earlier research suggests may influence their adjustment to congregate care. The second wave of interviews occurred about 4 months later.

Structural equation modeling (using AMOS) was used to develop the model. The chosen model includes facility factors, including a view of nature and non-neighboring (end) units, resident factors, including age and health, and person-environment fit factors, that is, measures of the

desirability to residents of specific leisure activities versus their perceived availability.

The model possesses excellent psychometric qualities, and explained an important proportion of the variance in residents' adjustment to congregate care. It shows, as predicted, that personal, social, building, and combination factors are related to adjustment to congregate care. In particular, adjustment is better among younger residents and those in better health, better for those who have stronger support from their families, better for those with an end-unit and with a view of nature. In terms of combination factors, when the housing does not offer activities that are important to residents, their adjustment is worse.

A number of specific suggestions for future research, building design, and congregate care management are offered, with the proviso that the suggestions are based on a limited study which should be replicated and expanded. Nevertheless, the study points the way toward a system of placing residents in congregate care that might improve their adjustment to this difficult and important life transition.

RÉSUMÉ

L'étude en question proposait et mettait à l'essai un modèle permettant d'assortir les personnes âgées au type de logement-foyer qui leur conviendrait. On entend par logement-foyer un ensemble de logement pour aînés qui jouissent d'une bonne santé physique et mentale, mais qui ont besoin de certains services de soutien non médical. Cette définition englobe cependant diverses formes de logements et types de services, et nous savons tous que les personnes sont différentes de bien des façons. Le but précis de l'étude était de faire ressortir (a) certains des aspects des logements-foyers qui favorisent une adaptation positive pour pratiquement tous les résidents, (b) certaines des caractéristiques des résidents qui sont associées à la satisfaction, sans égard à l'immeuble et (c) certaines des combinaisons heureuses de caractéristiques d'immeubles et de résidents qui donnent lieu à une adaptation positive des résidents.

Le but pratique final, vers lequel cette étude constitue un premier pas, est de créer un mécanisme d'évaluation qui permettra de prédire quelles personnes s'adapteront le mieux à quels types de logement-foyer. Le but de la présente étude est plus modeste : déterminer quels facteurs sont des variables significatives de l'adaptation à divers types existants de logement-foyer. Il est important d'assortir correctement chaque personne au type de résidence convenant le mieux afin de maximiser son adaptation. Un outil de prédiction à cette fin serait utile parce qu'il permettrait de réduire le nombre de mauvais choix de résidence.

De certaines façons, l'adaptation à un logement-foyer ressemble à l'adaptation à d'autres changements qui surviennent au cours de la vie. Afin de déterminer lesquels des facteurs possibles sont davantage liés à l'adaptation, cette étude s'est servi d'un modèle existant qui a permis de prédire avec succès l'adaptation à une maladie chronique (Eso & Gifford, 1998). Le but est de déterminer si l'on peut utiliser un modèle semblable pour décrire et prédire avec assez de précision l'adaptation à la vie dans un logement-foyer.

Afin d'examiner le modèle, on a mené deux séries d'entrevues avec des personnes âgées qui venaient de s'installer dans un logement-foyer. La première série visait l'évaluation d'un certain nombre de facteurs que des recherches antérieures avaient donné comme pouvant influencer l'adaptation au logement-foyer. La deuxième série a été menée environ quatre mois plus tard.

On a recouru à l'analyse des équations structurelles (à l'aide d'AMOS) afin de créer le modèle. Le modèle choisi comprend des facteurs relatifs aux installations, notamment la vue sur la nature et l'accès à des logements n'ayant pas de voisins des deux côtés (logement de bout), des facteurs relatifs aux résidents, notamment l'âge et la santé, et des facteurs visant l'adaptation personne-environnement, c'est-à-dire le caractère désirable, aux yeux des résidents, d'activités de loisir précises par rapport à leur disponibilité perçue.

Le modèle possède d'excellentes qualités psychométriques et a expliqué une part importante de l'écart constaté dans l'adaptation des résidents à la vie en logement-foyer. Comme on l'avait prédit, il démontre un lien entre les facteurs relatifs aux personnes, aux relations sociales et à l'immeuble et les facteurs combinés, et l'adaptation à la vie en logement-foyer. Plus particulièrement, l'adaptation est supérieure chez les résidents moins âgés et ceux qui sont en

meilleure santé, elle est supérieure chez ceux qui reçoivent un appui plus solide de leurs familles, et elle est supérieure chez ceux qui ont un logement de bout et qui ont une vue sur la nature. En termes de facteurs combinés, quand le logement n'offre pas les activités que les résidents jugent importantes, l'adaptation se fait moins bien.

Un certain nombre de suggestions sont offertes concernant les recherches futures, la conception des immeubles et la gestion des logements-foyers. Les suggestions se fondent cependant sur une étude restreinte qu'il faudrait reprendre et étendre. Néanmoins, l'étude ouvre la voie à un système de placement des résidents en logement-foyer qui pourrait améliorer leur adaptation à cette transition difficile et majeure.

TABLE OF CONTENTS

Page

Introduction..... 1
A Multivariate Approach to Congregate Care Adjustment..... 3

Methods..... 5
Overview..... 5
Assessment Instruments..... 5

Results..... 7
Scale Development..... 7
Pattern of Responses: Time 1..... 7
Pattern of Responses: Time 2..... 10
Change and Stability Between Time 1 and Time 2..... 12
A Model of Adjustment to Congregate Care..... 12

Discussion..... 17
The Facility..... 17
Some Design Implications 17
The Resident, and Social Forces..... 18
Congruence: Person-Environment Fit..... 18
Toward a Useful Residential Selection Instrument.... 19

References..... 20

Appendix A: The Congregate Care Residences..... 22

Appendix B: The Interview Schedules..... 25

FIGURES AND TABLES

Page

Figure 1. A Model of Adjustment to Chronic Illness..... 1

Table 1. Independence at Time 1..... 7

Table 2. The Importance of Various Leisure Activities..... 8

Table 3. Satisfaction with the Pre-Congregate Residence..... 9

Table 4. Coping, Life Satisfaction, and Social Support at Time 1..... 9

Table 5. Independence at Time 2..... 10

Table 6. The Perceived Availability of Leisure Activities at Time 2..... 11

Table 7. Satisfaction with the Congregate Care Facility..... 11

Table 8. Coping, Life Satisfaction, and Social Support at Time 2..... 12

Figure 2. A Model of Adjustment to Congregate Care..... 12

INTRODUCTION

Aging is a part of everyday life. Many persons require some support at an advanced age. Some forms of this support are residences that provide few to many services. One type of residence is the congregate care facility. Various forms of congregate care housing have been proposed and built, and a major purpose of this study is to understand how elderly persons adjust to living in different forms of congregate care.

In our view, all congregate care housing shares certain characteristics: they tend to be the first or earliest form of non-family supportive housing that elderly persons require; they offer non-medical services such as meals and maid service; they otherwise resemble ordinary apartment or condominium complexes. Some congregate care buildings now include attached or proximate facilities or services to provide a range of medical services, but this study focuses on what might be called "first-stage" or non-medical supportive housing.

How do individuals adjust to this form of housing? Our previous work for CMHC (Geller & Optimal Environments, 1989) clearly showed that adjustment to congregate care does vary. Even new, pleasant-appearing buildings had residents who were not adjusting well to them.

In this study, we assume that no single form of housing is best for all seniors, but that optimal housing for the elderly person who needs some services implies the necessity of a variety of housing forms, and that different persons will be best suited to these different residential forms (Kahana, 1975; O'Connor & Vallerand, 1994).

In particular, this study examines a method for predicting which elderly persons will adjust well to one increasingly popular form of housing, congregate care. Its ultimate goal is to develop an assessment device to predict which persons will respond better to which forms of congregate care.

Congregate care often is necessitated by decreased mobility or other problems of frailty in old age. Seniors generally prefer to "age in place" (Filion, Wister, & Coblentz, 1992), but this is not always possible and sometimes it may not be desirable for safety or psychological reasons. Not all residents find congregate care unpleasant, although some do (Armer, 1993).

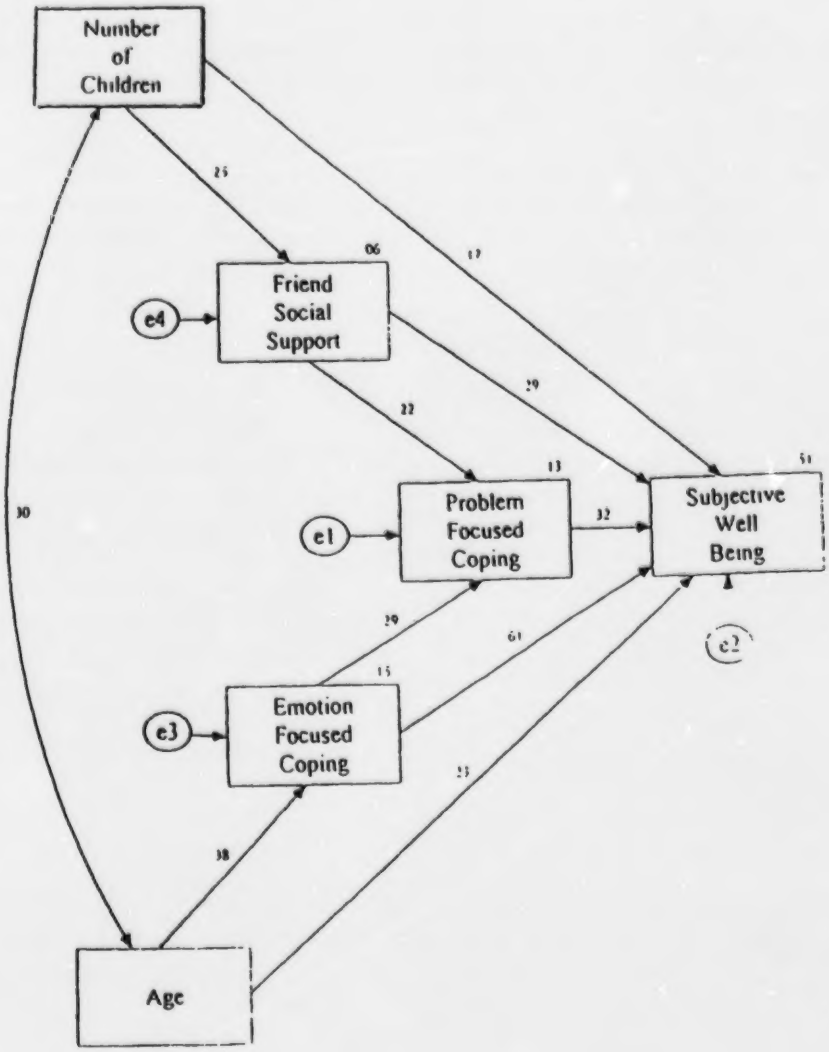
In some ways, adjustment to old age is similar to adjustment to chronic illness: no one chooses it, it continues for a long time, and it is irreversible. Nevertheless, some people adjust to it better than others, and housing form probably affects the adjustment process--sometimes positively and sometimes not.

Because there are numerous possible housing arrangements (e.g., programs exist for adapting homes so seniors can continue to live in them; Trickey, Maltais, Gosselin, & Robitaille, 1993), it is important to be able to match person and type of residence to maximize positive adjustment to old age. A prediction tool would be valuable because it should reduce the number of ill-advised selections of a residence. The problems of adjusting to very old age should not be compounded by moving first into and then out of a congregate care facility.

In the chronic illness literature, several factors have already been shown to significantly affect adjustment. These include perceived control (Lau, 1982; Marks, Richardson, Graham & Levine, 1986; Hull, Van Treuren & Virnelli, 1987; Schulz & Decker, 1985), social support (Holahan &

Moos, 1985, 1986, 1987; Cohen & Wills, 1985; DeLongis, Folkman & Lazarus, 1988; Schulz & Decker, 1985), and coping strategies (Folkman, Lazarus, Gruen & DeLongis, 1986; Holahan & Moos, 1985, 1986; Billings & Moos, 1981). Recently, these factors, which had generally been studied in piecemeal fashion, were investigated in an integrated model (Eso & Gifford, 1998). This model (Figure 1) was shown to significantly predict subjective well-being (SWB) among people with a serious chronic illness.

Figure 1. A Model of Adjustment to Chronic Illness



A Multivariate, Longitudinal Approach to Congregate Care Adjustment

Broadly, we propose that this model, or a similar one, will also predict adjustment to congregate care. Because this study focuses on physical facilities, it must also include aspects of the built environment of congregate care buildings. Age and number of children may not be as relevant as in our earlier study, but other personal characteristics may be.

Based on previous research, we expect that the following factors may play an important role in predicting adjustment to congregate care.

Coping Style

Coping consists of cognitive and behavioral efforts to master, tolerate, or reduce external and internal demands and the conflicts between them: two basic categories have been distinguished, emotion-focused and problem-focused coping strategies (Folkman & Lazarus, 1980). Coping strategy has been shown to influence adjustment: problem-focused orientations generally have positive outcomes, and emotion-focused orientations generally have negative outcomes (e.g., Roberts, Browne, Streiner, Byrne, Brown, & Love, 1987, Holahan & Moos, 1986). In a study of nursing home residents (Shaw, 1992), however, both problem- and emotion-focused coping were negatively related to "coping effectiveness," or adjustment. Nevertheless, on balance, we hypothesize that better adjustment will be related to the use of more problem-focused and fewer emotion-focused coping strategies.

Perceived Health

Health is, of course, closely linked to adjustment, and is especially important to the elderly. Self-rated health might be questioned as an indicator of actual health, but several studies support the idea that self-perceptions are more germane even than physician-rated health (Mancini, 1978).

The obvious hypothesis is that better self-rated health is related to more positive adjustment, and there is some evidence to support this (Shaw, 1992).

Social Support

Social support is a reliable predictor of Adjustment (Diener, 1984): individuals with less social support are less well-adjusted (Billings & Moos, 1981), and those with more support report better adjustment (Chiriboga, Jenkins & Bailey, 1983). McNett (1987) found that more perceived social support was linked to better adjustment. Therefore, we hypothesize that greater social support will be related to better adjustment.

Level of Independence

Whether a person can or is able to engage in a variety of necessary everyday activities is an obvious key to adjustment. Residents were asked in both interviews whether they did 8 common activities for themselves, such as cooking, bathing, and laundry.

Preferred Activities

Other activities are not necessary, but are important for their leisure value, particularly to retired persons. A study of older adults who lived in a public housing complex (Mancini, 1978) reported a substantial relation between leisure satisfaction and psychological well-being, independent of income and health. The present study examined how important 9 such activities, including gardening, reading, and attending outside events, are to each resident.

For preferred activities, adjustment may be related either to (a) whether the congregate care facility supports these activities, and/or (b) whether they are important to the resident. For example, a particular facility may not have a garden for residents, but if a particular resident does not value gardening, there is no loss of satisfaction or fulfillment. These two alternatives contrast what might be called the activity-supply model, which simply asserts that the more activities that are available, the better, and the person-environment congruence model, which asserts that the environment should specifically supply activities that are of interest to particular persons who value them.

Unit View and Location Within the Building

Research suggests that views of nature are beneficial for many people (Ulrich, 1993), although one study reports this is not the case for nursing home residents (O'Connor, Davidson, & Gifford, 1991). Nature views appear to be calming and restorative. The study checked what view (if any) each resident had from the unit's window. Evidence also suggests that which floor residents live on matters (Gifford, 1999), so that was noted. End units were also noted, in case this generally desirable location made a difference in adjustment, as has been found in previous research (Duffy & Willson, 1985).

Building Characteristics

Beyond the resident's own unit, characteristics of the building may affect the adjustment of individuals within it(e.g., Devlin, 1980). The age of the building, its size, height, cost, and number of common areas (such as crafts rooms, lounges, or other generally accessible spaces) are among these variables.

Adjustment

This generic term encompasses several concepts. Chief among these are satisfaction with one's residence and general life satisfaction. In general, we hypothesize that the model will predict successfully multi-dimensional adjustment for residents of congregate care homes.

A Longitudinal Approach

Adjustment is a dynamic process. In particular, the shift from independent living to congregate care is a difficult process, psychologically and in other ways (Thomasma, Yeaworth, & McCabe, 1990). This study examines changes in adjustment and other key variables over the span of this transition, something that earlier researchers have called for (e.g., Shaw, 1992).

METHOD

Overview

46 elderly persons were individually interviewed twice, with their written permission. One interview occurred just after moving into a congregate care facility, and the second occurred about 4 months later. The first interview assessed demographic, social, and physical factors such as age, amount of social support, or building form that research suggests should predict adjustment to congregate care, and the second assessed changes in these factors, and adjustment. Each interview occurred in a private setting within the facility and took about 60-90 minutes.

The consent form signed by the residents assured them that their answers would not be passed along to anyone except the researchers, and specifically that their answers would not be made known to their family, friends, or the staff of their residence.

The interviewees were persons entering numerous different congregate care housing sites in Victoria and area (see Appendix A). These varied in size, costs, services, and physical form. Each factor will be used to predict adjustment.

Assessment Instruments

Appendix B includes both interview schedules. The elements of the interviews were as follows.

Social Support

Social support has been measured quantitatively as the actual amount of social support received, but because the effects of social support often are cognitively mediated, a measure of the perceived availability of social support is a more sensitive indicator of its buffering effects (McNett, 1987). The Provision of Social Relations (PSR) (Turner, Frankel, & Levin, 1983) was chosen. The PSR consists of statements such as "I have at least one friend I could tell anything to."

Coping strategy

Coping strategy was measured with the Jalowiec Coping Scale (JCS; Jalowiec, Murphy, & Powers, 1984). The JCS was chosen because it was developed on a medical population. It consists of 40 coping behaviors culled from a comprehensive literature review, each of which are rated on a 5-point frequency-of-occurrence scale. A sample of items of the JCS are "Try to maintain control over the situation," "Try to find meaning in the situation," and "Withdraw from the situation."

Demographic information

Research shows that certain demographic variables are related to adjustment; they will be explored in this study in case they are useful in the case of adjustment to congregate care. They include: gender (Wood, Rhodes & Whelan, 1989; Holahan & Moos, 1986), marital status (Diener, 1984; Wood, Rhodes & Whelan, 1989; McNett, 1987; Chiriboga, Jenkins & Bailey, 1983), socioeconomic status (Diener, 1984; Holahan & Moos, 1987), level of independence, and mobility (Billings & Moos, 1984; Schulz & Decker, 1985).

Adjustment

Many views and measures of adjustment exist. The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985) will be used to measure general life satisfaction. A typical item

is, "In most ways my life is close to my ideal." The proposed model will be tested using AMOS 3.6, a new causal modeling program (Arbuckle, 1997). It provides several indices of goodness of fit and whether the data are well explained by the hypothesized model. AMOS allows for the testing of significant interactions, or person-setting combinations, that are related to adjustment.

RESULTS

Scale Development

Several measures used in this study consist of multiple items. Scales should be reliable before they are used in analyses, so the internal consistency reliability of these scales was checked. The Jalowiec coping scale did not show particularly high internal consistency in its full version, but a 10-item one-factor version that ranged from an emotion-oriented coping style to a problem-solving coping style exhibited good reliability in the first (alpha = .77) and second (alpha = .78) interviews.

The Provision of Social Relations scales include measures for perceived support from family and perceived support from friends. A 4-item version of the family support scale was quite reliable (alpha = .83 in the first interview and .90 in the second interview). A 4-item version of the friends support scale had a reliability of .74 in the first, and .76 in the second interview.

The 4-item Diener life satisfaction scale had a first-interview internal consistency of .78 and a second-interview internal consistency of .67. The [other] life satisfaction scale's reliabilities were .70 in the first and .60 in the second interview.

Satisfaction with the former (where the resident lived just prior to congregate care) and new (congregate care) residences were assessed on 11- and 17-item scales, respectively. The reliability for satisfaction with the former residence was .76; that for the new residence was .69.

Residents' level of independence was measured with an 8-item measure. Reliability at time 1 (just after moving into congregate care) was .76; that for time 2 (four months later, on average) was .65.

Pattern of Responses: Time 1

Demographics

The sample at time 1 consisted of 28 women and 18 men who resided in 15 different congregate care housing sites on Vancouver Island. The sample averaged 84 years of age, and ranged in age from 70 to 94. They averaged 5.4 on an 8-point education scale on which 5 stood for "some vocational training after high school" and 6 stood for "some college or university." Most (85 percent) were widowed; the rest, in about equal proportions,

Table 1. Independence at Time 1

	N	Min	Max	Mean	SD
Cooking	46	1.0	4.0	3.11	1.10
Shopping	46	1.0	4.0	3.13	1.11
Gardening and lawn care	44	1.0	4.0	1.86	1.15
Bills and banking	46	1.0	4.0	3.50	.94
Dressing	46	3.0	4.0	3.91	.28
Bathing	46	2.0	4.0	3.80	.58
Household cleaning	46	1.0	4.0	2.35	1.04
Laundry	46	1.0	4.0	2.98	1.24

Note. The question was, "In your pre-residence housing, did you do the following for yourself?" Responses were coded: 4=all 3=most 2=some 1=none. N is the number of respondents to the questions, Min is the lowest response, Max is the highest. SD is the standard deviation, the amount above and below the mean that includes about two-thirds of all responses.

were divorced, never married, or married. Seven were born in British Columbia, 23 in other Canadian provinces, 13 in the UK, and 3 in continental Europe.

Independence

The descriptive statistics for the other variables are displayed in the following tables. Independence was measured as the degree to which the interviewees engaged in 8 everyday activities without assistance. As may be seen, these residents did most or all their dressing, bathing, banking, shopping and cooking; they did some or most of their own laundry, household cleaning, and gardening. Respondents were then asked whether, if they needed help with any of the above, anyone had been available that they could count on to help them.

Over three-quarters (78 percent) answered affirmatively. When asked how many people they could count on, the 78 percent who had said they could count on someone replied (on average) that they could count on 1.93 others (SD = 1.24) to help them.

Important Optional Activities

The interviewees were asked how important various common activities were to them. These represent chosen or leisure activities, as opposed to the necessary activities summarized in Table 1. Table 2 displays the mean importance of 9 everyday-but-optional activities.

Table 2. The Importance of Various Leisure Activities

	N	Min	Max	Mean	SD
Cards, board games	46	1.0	4.0	2.74	1.22
Active sports	45	1.0	4.0	2.73	1.30
Arts and crafts	46	1.0	4.0	2.54	1.22
Cooking	46	1.0	4.0	2.26	1.22
Gardening	46	1.0	4.0	2.85	1.19
Reading	46	1.0	4.0	3.65	.77
Going for walks	46	1.0	4.0	3.26	1.14
Watching TV	46	1.0	4.0	2.94	1.00
Attending events	45	1.0	4.0	2.71	1.24

Note. Active sports were described as golf, swimming, cycling, etc. Attending events was described as church, clubs, classes, etc. The question was, "How important are these activities to you?" Responses were: 4=very 3=somewhat 2=slightly 1=not. See Table 1 for definitions of N, Min, Max, and SD.

Satisfaction With Previous Residence

The residents were asked how satisfied they had been with the housing in which they had dwelled immediately before entering congregate care.

Table 3 (next page) shows the results for 11 aspects of the former residence, and an overall evaluation. One can see that the level of satisfaction with the previous residence was very high in this sample.

Table 3. Satisfaction with the Pre-Congregate Residence

	N	Min	Max	Mean	SD
Accessibility	46	1.0	4.0	3.48	.81
Contacting	44	2.0	4.0	3.59	.58
Safety and security	46	1.0	4.0	3.50	.81
Doing hobbies	43	2.0	4.0	3.56	.63
"Getting around"	45	1.0	4.0	3.64	.68
Privacy	46	1.0	4.0	3.83	.53
Quiet	46	1.0	4.0	3.67	.63
Lighting	46	3.0	4.0	3.91	.28
Temperature	46	1.0	4.0	3.80	.58
Amount of space	46	2.0	4.0	3.59	.65
Food	41	1.0	4.0	3.12	1.00
Overall	44	3.0	10.0	8.01	1.78

Note. Accessibility was defined as "to stores and services." Contacting meant "family and friends." Hobbies included "and other leisure activities." Getting around was also defined as mobility. Overall was expanded to include, "How satisfied were you with this housing?" The question was "How well did your former residence meet your needs?" Responses were 4=very well 3=fairly well 2=not very well 1=poorly, except for the Overall item, which could range from 1 (= the worst) to 10 (=the best). See Table 1 for definitions of N, Min, Max, and SD.

Coping, Life Satisfaction, and Social Support

The descriptive statistics for the major scales used in the study are shown in Table 4. These include the abridged Jalowiec coping scale, social support from family and from friends, domain life satisfaction, and ideal life satisfaction. On average, the respondents showed moderate levels of problem-oriented coping, said they had quite a bit of support from family and friends, and were fairly satisfied with life.

Table 4. Coping, Life Satisfaction, and Social Support at Time 1

	N	Min	Max	Mean	SD
Coping	46	2.10	4.80	3.57	.71
Friend Support	46	1.75	5.00	4.21	.83
Family Support	45	1.00	5.00	4.16	.96
Life Satisfaction (Domains)	45	1.50	4.00	3.39	.55
Life Satisfaction (Ideal)	44	1.75	7.00	5.26	1.32

Note. The Jalowiec coping scale uses a 1-to-5 scale on which 1=never and 5=always; all items were recoded so that a higher score signifies a more problem-solving choice; the score above is the per-item average across all 10 items used (these items are starred in the Jalowiec scale in Interview 2 in Appendix B). The Provision of Social Relations measure uses a 1-to-5 scale on which 1=not at all like me to 5=very much like me; all items were recoded so that higher numbers indicate more perceived support; the scores above are per-item averages across all items. Domain life satisfaction items could range from 1 (=very dissatisfied) to 4 (=very satisfied); the score above is a per-item average across all items. The items on ideal life satisfaction, the Diener scale, could range from 1 (= strongly disagree) to 7 (= strongly agree); the score above is a per-item average across all items. See Table 1 for definitions of N, Min, Max, and SD.

In response to a question about their current health, the residents answered, on average, on a scale ranging from 1 (=not very good) to 4 (= excellent) that their health was between fair (=2) and good

(=3); the mean was 2.44, with a sd of .88, indicating that most answers were either 2 or 3.

Finally, residents were asked about their financial status. One question asked, "In general, how well did your income and investments satisfy your needs in your previous residence?" On a scale ranging from 1 (=not well) to 4 (=very well), the mean response was between 3 (=adequately) and 4; the mean was 3.52 (sd = .59). A second question asked about the future: "Looking ahead, how do you think your income and investments will satisfy your needs in the future?" The scale was the same; the mean was 3.20 (sd = .79).

Pattern of Responses: Time 2

By time 2, four months later on average, some residents could not be interviewed: some had moved to unknown locations, nursing homes, or other provinces, 2 had died, a few were too ill or declined to undertake the second interview. Thus, present the data that are parallel to Time 1. All the sample at time 2 consisted of 34 residents who lived in 15 different housing sites. The following tables questions were the same, except that unchanging items (such as age and sex) were not repeated, and the Jalowiec coping scale was asked in a shortened form because residents found its initial length troublesome, and not all items were needed for its reliable shortened version. Only the 10 Jalowiec items found to be useful were employed in analyses of Time 1 and Time 2 responses. Also, satisfaction with the new residence was measured on some items that were not used at Time 1 because they were not relevant, such as adequacy of the residence's staff; this measure grew from 11 items at Time 1 to 16 items at Time 2. All measures used the same scales, so the notes to Tables 1 to 4 apply to Tables 5 to 8.

Table 5. Independence at Time 2.

	N	Min	Max	Mean	SD
Cooking	34	1.0	2.0	1.50	.51
Shopping	34	1.0	4.0	3.03	1.17
Gardening and lawn care	34	1.0	2.0	1.09	.29
Bills and banking	34	1.0	4.0	3.28	1.11
Dressing	34	2.0	4.0	3.94	.34
Bathing	34	2.0	4.0	3.74	.62
Household cleaning	34	1.0	4.0	1.50	.79
Laundry	34	1.0	4.0	2.29	1.12

Note. See Table 1 for definitions of N, Min, Max, and SD, and for details about the activities.

In order to assess any gaps between the importance of various leisure activities and their seeming availability at the new congregate care residence, interviewees were asked how easy it was for them to engage in the same set of chosen activities. Table 6 summarizes these data.

Active sports, such as golf, and gardening appear to be relatively difficult to engage in. Cooking and going for walks are also not particularly easy to do in these residences. Of course, at this age, this may not be of great concern; Table 2 shows that cooking is among the least-important activities to residents. However, if the gap is important, its size will be revealed by comparing Table 6 with Table 5. Later, this comparison will be made, and its relation to adjustment will be investigated.

Table 6. The Perceived Availability of Leisure Activities at Time 2.

	N	Min	Max	Mean	SD
Cards, board games	34	1.0	4.0	3.53	.82
Active sports	34	1.0	4.0	1.35	.77
Arts and crafts	34	1.0	4.0	2.26	1.33
Cooking	34	1.0	4.0	2.50	1.02
Gardening	34	1.0	4.0	1.50	.86
Reading	34	1.0	4.0	3.24	1.02
Going for walks	34	1.0	4.0	2.68	.94
Watching TV	34	2.0	4.0	3.62	.70
Attending events	33	1.0	4.0	3.12	.96

Note. See the note to Table 2 note for details. See Table 1 for definitions of N, Min, Max, and SD.

Interviewees' satisfaction with their new residence was assessed at Time 2, four months (on average) after they had moved in. Table 7 shows these results.

Table 7. Satisfaction with the Congregate Care Facility

	N	Min	Max	Mean	SD
Accessibility	33	1.0	4.0	3.48	.80
Contacting	34	1.0	4.0	3.62	.74
Safety and security	34	2.0	4.0	3.74	.57
Doing hobbies	32	2.0	4.0	3.56	.67
"Getting around"	34	2.0	4.0	3.79	.54
Privacy	34	2.0	4.0	3.82	.52
Quiet	34	2.0	4.0	3.74	.62
Lighting	34	2.0	4.0	3.79	.54
Temperature	34	3.0	4.0	3.75	.43
Amount of space	34	2.0	4.0	3.56	.61
Food	34	2.0	4.0	3.57	.60
Appearance	34	3.0	4.0	3.76	.43
Upkeep	34	4.0	4.0	4.00	.00
Size	34	3.0	4.0	3.82	.39
Public spaces	34	3.0	4.0	3.62	.49
Staff	34	2.0	4.0	3.91	.38
Residents	34	1.0	4.0	3.26	.83
Overall	24	7.0	10.0	9.29	.75

Note. For the first 11 items, and Overall, which are the same as in Table 3, see the note to Table 3. For the 6 new items, the complete item for appearance was "general appearance of the building," upkeep was "building upkeep (cleaning and maintenance)," size was "size (of the building as a whole)," public spaces was "public spaces and activities (e.g., dining room, lobby, activities room)," staff was "staff helpfulness and friendliness," and residents was "residents as friends and supporters." See Table 1 for definitions of N, Min, Max, and SD.

Table 8 (next page) displays the means on the key scales in the study, coping, support and satisfaction at Time 2.

Table 8. Coping, Life Satisfaction, and Social Support at Time 2

	N	Min	Max	Mean	SD
Coping	34	1.70	4.78	3.65	.84
Friends Support	34	1.00	5.00	4.14	.92
Family Support	34	1.00	5.00	4.16	1.09
Life satisfaction (Domains)	34	2.00	4.00	3.24	.54
Life satisfaction (Ideal)	33	2.00	6.75	5.04	1.21

Note. See Table 4 for details on these scales. See Table 1 for definitions of N, Min, Max, and SD.

Changes Between Time 1 and Time 2

Differences

Over the four months (on average) between the first and second interviews, some changes occurred for the residents and some did not. The comparisons that follow are based on the 34 respondents with whom both interviews were done. The degree to which residents cope with problems in a problem-solving manner, as opposed to an emotion-focused manner, did not change significantly, $t(33) = .89$, $p = .38$.

The amount of support from friends, $t(33) = .63$, $p = .58$, and from family, $t(33) = .25$, $p = .81$, did not change significantly. Domain life satisfaction did decline slightly from Time 1 to Time 2, from 3.39 to 3.24 on its 4-point scale, but this was not quite significant by conventional standards, $t(32) = 1.44$, $p = .16$.

Ideal life satisfaction, however, did decline significantly, from 5.26 to 5.04 on its 7-point scale, $t(31) = 2.34$, $p = .02$.

Independence also declined significantly, from 3.19 to 2.55 on its 4-point scale, $t(33) = 6.59$, $p < .001$. The largest decline was in cooking. Because services are offered, by definition, in congregate care, this decline is not surprising. However, one might imagine that, if everyday tasks are seen as chores, that life satisfaction would rise as the extent of activities engaged in declines, but this was not the case.

Stabilities

Independent of whether these scale scores increase or decrease, they may keep their rank order across residents or not. Stability was measured as the Pearson correlation between the scales at Time 1 and Time 2.

Most parallel scores were fairly strongly correlated: coping style $r = .64$, family support $r = .85$, friend support $r = .71$, and ideal life satisfaction $r = .63$. Others were less stable: independence $r = .41$ and domain life satisfaction $r = .36$. Residential satisfaction from the previous residence to congregate care was virtually uncorrelated, $r = -.02$. This is understandable in that the shift from one residence to another offers more opportunity for either an increase or a decrease in satisfaction than, say, in one's coping style or family support.

A Model of Adjustment to Congregate Care

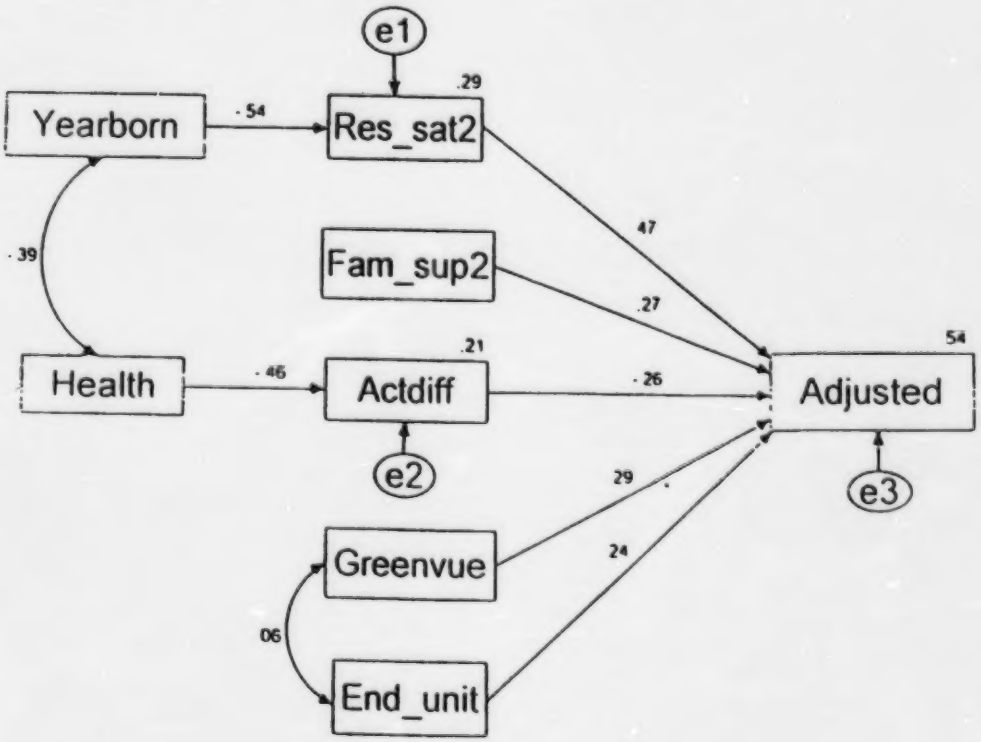
Now that a general sense of the trends in the data are apparent, it is time to attempt a model of adjustment. In doing so, we follow the idea set forth in the introduction. That is, we expect that adjustment will be predicted by a combination of personal and facility variables, and that a model of

adjustment will contain at least some congruence measures.

AMOS 3.61 was used to examine these possibilities. Proponents of structural equation modeling realize that various models may work approximately as well as one another, so that no particular model should be viewed as the final or complete image of the relations among its elements or of the variables under consideration. Furthermore, models can become very complicated, although the goodness of fit measures employed to evaluate the model put brakes on complexity. Finally, although model-building is guided by theory, it is usually at least slightly exploratory.

Thus, the model presented in Figure 2 is a product of all these statements. It is the single model that emerged from a certain amount of theory-guided exploration.

Figure 2. A Model of Adjustment to Congregate Care



The model's key variables are yearborn (the year in which the resident was born), res_sat2 (the resident's satisfaction with the congregate care facility), greenvue (whether the resident had a window view that was mainly of plants and trees), end_unit (whether the resident occupied an end unit in the building), fam_sup2 (the degree of support from the resident's family, as perceived by the resident), health (resident's self-reported health at Time 2), actdiff (a congruence measure: the difference between how important the 8 leisure activities were to the resident and how available they were in the new facility, in the resident's estimation), and adjusted (residents' level of adjustment several months after moving into the congregate care facility).

Within the context of these factors (it is important to note that the addition or subtraction of elements in the model could alter the importance of each element in it), all these factors play an important role in resident adjustment.

Personal Factors Influence Adjustment

First, age strongly affects satisfaction with congregate care housing , in this sample. Older residents are less satisfied with their housing . (Incidentally, older residents are also adjusted less well; $r = -.41$; $p = .02$) Although characteristics of individual residents were, in general, expected to play important roles in the adjustment model, age was not expected to be a key variable. Some may hold the view that the elderly change their opinions and evaluations very gradually or not at all, it appears that the later in life residents enter congregate care, the less pleased they will be with the facility.

Health affects adjustment both directly (better health is associated with better adjustment, $r = .53$, $p = .001$), and indirectly, as Figure 2 shows. The worse that residents' health is, the bigger the gap between the importance of leisure activities and being able to engage in them. That is, poor health prevents residents from engaging in their favorite leisure occupations.

As Figure 2 also shows, personal factors are related: older residents report poorer health.

Facility Factors Influence Adjustment

Figure 2 shows that residential satisfaction, which is influenced by age, is in turn an important predictor of adjustment. This is not surprising. However, other building factors play an independent role in resident adjustment. First, residents who have a view of nature are better adjusted. Second, those who live in an end-unit are better adjusted.

Social Factors Influence Adjustment

As expected, social factors also seem to influence resident adjustment. The more that these residents experienced support from their families, the better their adjustment. It is worth noting that support from friends was not a significant factor in residents' adjustment.

Congruence Influences Adjustment

Finally, congruence matters. Health affects the gap between valuing leisure activities and the ability to engage in the activities, or their availability in the residence. Health does not perfectly predict the gap; to the extent that activities cannot be undertaken because he facility does not provide them, or does not make them easily available, adjustment is worse.

The Payoff

With these significant factors in place, the model depicted in Figure 2 is able to explain 54 percent of the variance in resident adjustment, a considerable amount given the inevitable imperfections in the measures, in the responses of the residents, etc.

Path models are evaluated on their parsimony and goodness of fit, as well as their ability to explain a sizable proportion of variance in the criterion. The model in Figure 2 has admirable qualities in this regard: a nonsignificant chi-square (= 15.69, 19 df, $p = .68$), a goodness of fit index of .91, where 1.00 is perfect, and an RMSEA of .000, for which low values indicate better models.

DISCUSSION

A model of adjustment examined in an earlier study (Eso & Gifford, 1998) successfully predicted adjustment to chronic illness. This led to the idea that the model may apply to persons in similar situations, such as those adjusting to congregate care.

The Facility

A major difference between the earlier study and this one is that the facility itself, and the congruence between the facility and the resident, were hypothesized to play a useful role in predicting adjustment. Indeed, overall satisfaction with the facility as well as specific features such as a view of nature and units at the end of a hall were associated with better adjustment.

That views of nature are beneficial has been demonstrated in other populations (cf. Gifford, 1997, p. 320), such as prisoners, hospital patients, and students. One view (Ulrich, 1993) explains this in terms of the biophilia hypothesis, the idea that humans evolved in more natural surroundings, and views of nature are literally natural, and therefore restorative.

A second prominent view (Kaplan & Kaplan, 1989) explains the phenomenon in terms of mental fatigue relief. That is, most of our lives are taken up by activities that require attention but are not inherently fascinating. To view nature is to see a part of the world that is undemanding, yet inherently fascinating, and therefore restorative.

Some Design Implications

Clearly one always wishes to provide a pleasing physical setting for residents. Residential satisfaction was associated with better adjustment in this study. However, preferences differ to some extent, and it should not be forgotten that the same setting may include some who are pleased (and therefore presumably better adjusted) as well as some who are less pleased (and presumably less well adjusted).

In this sample, most residents were quite satisfied with their building, and virtually all the congregate care housing sites were relatively new, or recently renovated, and quite well kept. Still, beyond "a clean, well-lighted place," to borrow Hemingway's phrase, resident satisfaction may vary with style or decor.

For example, in Sweden, Kuller and Mattson (1984) showed that residents preferred decor that was current when residents were in the early prime of their lives, that is, about 45 years out of date (but nicely done, of course). Others do prefer modern (i.e., current) decor. Instruments such as McKechnie's (1974) Environmental Response Inventory, or simply photos of different styles, might be employed to foster even greater satisfaction among residents.

The theme of a good fit between resident and facility will arise again in a later section.

It is noteworthy that neither residents' satisfaction nor adjustment was significantly related to the size of the facility (in units), its number of floors, the average cost of living in it, or the building's age. The number of common areas (i.e., public amenity spaces) was marginally significantly related to residential satisfaction, $r = .33$, $p = .053$.

In terms of specifics, the results suggest that congregate care housing should include as many views of nature as possible, and attempt to provide as many non-neighboring (end) units as possible.

The Resident, and Social Forces

Certain characteristics of residents were related to adjustment, namely age and health. These exerted indirect influences on adjustment through residential satisfaction and the activities gap, respectively.

It might be asserted that nothing much can be done about age or health. This is not entirely true. Subsequent research should examine why it is that older residents are less happy. Perhaps they would like to see a different sort of building, for example, than the less elderly residents. On the other hand, older elderly people are, on average, in poorer health, which undoubtedly hinders positive adjustment; perhaps not much can be done, except to ameliorate their health problems as much as possible.

Despite research literature indications to the contrary, neither coping style not level of independence were important indicators of adjustment.

Resident adjustment was, according to the model, directly affected by the level of family support. This is unsurprising, but it raises a question about what might be done about a factor that would seem to be a private matter between residents and their families. In general, one solution is to make the facility proximate and inviting for family members. If families were encouraged to place their elderly relatives in nearby congregate care residences, and if more such residences could be spread somewhat evenly through the fabric of the population, more visits, and more social support, probably would result.

Steps might be taken to integrate family members into the congregate care residence. Examples might be invitations to dinner (on a rotating basis, so as to not overburden the space or kitchen staff), to plan more family outings which are aimed at the family member's interests as much as the resident's interests, and perhaps to organize gatherings of family members, so they develop a network of peers that would attract them to the residence more often. The keys to all these, however, are encouragement of family members to place the elderly person in a nearby residence and the construction of residences that are located as evenly as possible throughout the geography of aging.

Congruence: Person-Environment Fit

The theoretical approach taken in this study posits that optimal adjustment results from good person-environment fits, or congruence. It is true that some factors, such as social support and green views, appear universal. That is, congruence is not the entire answer. However, the results show how it can be important.

The model included a measure of the gap between the importance of leisure activities and the eased with which a resident could engage in these activities in his or her residence. Averaged across a number of activities, the results showed that a larger gap was associated with poorer adjustment.

Buried within this generic measure, however, were gaps for particular activities. These were not highlighted in the results section because they seemed too particular, and they may not replicate. They are worth mentioning here so that future researchers may consider studying them; a few of these particular gaps were striking.

For example, the TV gap was correlated very strongly with adjustment, $r = -.57$, $p < .001$. The nature of this gap, like others, is that when TV watching is very important to residents, but it is hard to obtain in a residence (perhaps because the TV is in a common area that is not private and may be somewhat distant from the resident's own living quarters), adjustment is significantly poorer. This gap may seem unimportant to active, occupied younger people, but appears to be very important to these elderly residents. The results suggest that,

for those to whom TV is important, it is important to make TV watching easy.

A second particular gap was arts and crafts, $r = -.32$, $p < .066$. The logic and solution would be similar to that for the TV gap.

Two other gaps were significant for residential satisfaction (but not adjustment). These were reading and cooking.

Again, the results suggest that congregate care managers and designers (and perhaps families, when they select a facility) should pay special attention to which leisure activities are especially important to the resident, even if it seemingly is mundane (e.g., TV), and select or design or arrange the environment to make the valued leisure activity an easy one for the resident to find and do. Merely having the activity available "somewhere" in the building, such as in a lounge or other commons area, may not be enough. Mobility is often a problem, the desire for privacy also often keeps residents in their rooms, and real or potential activity conflicts, such as which TV program will be chosen for the group to watch, may hinder residents' engagement in one of the few valued activities left to them.

Toward a Useful Residential Selection Instrument

This study alone cannot form the basis for the development of a useful residential selection instrument, and that was not its purpose. The sample probably is not representative of all congregate care residences, and in any case was not a very large sample. The study did not include all the variables and factors that might someday be useful elements of such an instrument.

However, the study serves to suggest the idea, and shows how such an instrument might be useful. It demonstrates that certain factors (such as nature views and social support) may be universally advantageous, and therefore no need exists for a residential selection instrument that would suggest one sort of facility for some elderly residents and another sort for others.

However, it (along with certain studies cited earlier) also shows that certain factors may be of maximum benefit to a resident's adjustment if a kind of matching process occurs.

It is, of course, also consistent with common sense that different residences will be good for different residents. But it is a long way from this simple assertion to a research-based, specific-element residential selection instrument. On the other hand, the development of such an instrument does not seem at all impossible.

Of course, a practical version of this tool would require confirmation and perhaps refinement in further research with other samples of elderly people before it could be confidently used. However, once that is accomplished, the assessment tool could be a valuable instrument in reducing the number of elderly people who might be placed in congregate care with a high probability of poor adjustment.

Conversely, it could identify persons who may not have considered congregate care but would be good candidates for it. The instrument could be used by informed seniors themselves, administrators of housing projects for the elderly, social workers, and others who must decide which type of housing is best for elderly persons.

REFERENCES

Arbuckle, J. (1997). AMOS users guide, version 3.6. Chicago: Smallwaters/SPSS.

Armer, J. M. (1993). Elderly relocation to a congregate setting: Factors influencing adjustment. Issues in Mental Health Nursing, 14, 157-172.

Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 4, 139-157.

Chiriboga, D. A., Jenkins, G., & Bailey, J. (1983). Stress and coping among hospice nurses: Test of an analytic model. Nursing Research, 32, 294-299.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. Psychological Bulletin, 98, 310-357.

DeLongis, A., Folkman, S., & Lazarus, R. S. (1988). The impact of daily stress on health and mood: Psychological and social resources as mediators. Journal of Personality and Social Psychology, 54, 486-495.

Devlin, A. S. (1980). Housing for the elderly: Cognitive considerations. Environment and Behavior, 12, 451-466.

Diener, E. (1984). Subjective well-being. Psychological Bulletin, 95, 542-575.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. Journal of Personality Assessment, 49, 71-75.

Duffy, M. & Willson, V. L. (1984). The role of design factors of the residential environment in the physical and mental health of the elderly. Journal of Housing for the Elderly, 2, 37-45.

Eso, S. J., & Gifford, R. (1998). Psychosocial adjustment to a chronic illness: Toward a causal model. Manuscript in preparation.

Filion, P., Wister, A. V., & Coblentz, E. J. (1992). Subjective dimensions of environmental adaptation among the elderly: A challenge to models of housing policy. Journal of Housing for the Elderly, 10, 3-32.

Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. Journal of Health & Social Behavior, 21, 219-239.

Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. Journal of Personality and Social Psychology, 50, 571-579.

Geller, M., & Optimal Environments, Inc. (1989). Supportive housing options for seniors, part 1: Six case studies Report to the British Columbia Ministry of Health and the British Columbia Housing Management Commission, for CMHC.

Gifford, R. (1997). Environmental psychology: Principles and practice. Newton Heights, MA: Allyn and Bacon.

Gifford, R. (1999). Satisfaction, health, security, and social relations in high-rise buildings, in A. D. Seidel & T. Heath (Eds.) Social effects of the building environment. In preparation: E & FN Spon.

Holahan, C. J., & Moos, R. H. (1985). Life stress and health: Personality, coping, and family stress in stress resistance. Journal of Personality and Social Psychology, 49, 739-747.

Holahan, C. J., & Moos, R. H. (1986). Personality, coping, and family resources in stress resistance: A longitudinal analysis. Journal of Personality and Social Psychology, 51, 389-395.

Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. Journal of Personality and Social Psychology, 52, 946-955.

Hull, J., Van Treuren, R., & Virnelli, S. (1987). Hardiness and health: A critique and alternative

approach. Journal of Personality and Social Psychology, 53, 518-530.

Jalowiec, A., Murphy, S. P., & Powers, M. J. (1984). Psychometric assessment of the Jalowiec Coping Scale. Nursing Research, 33, 157-161.

Kahana, E. (1975). A congruence model of person-environment interaction. In P. G. Windley, T. O. Byerts, & F. G. Ernst (Eds.), Theory development in environment and aging. Washington, DC: The Gerontological Society.

Kaplan, R., & Kaplan, S. (1989). The experience of nature: A psychological perspective. New York: Cambridge.

Kuller, R., & Mattson, R. (1984, July). The dining room at a geriatric hospital. Paper presented at the International Association for the Study of People and their Surroundings, Berlin.

Lau, R. (1982). Origins of health locus of control beliefs. Journal of Personality and Social Psychology. 42, 322-334.

Mancini, J. A. (1978). Leisure satisfaction and psychologic well-being in old age: Effects of health and income. Journal of the American Geriatrics Society, 26, 550-552.

Marks, G., Richardson, J. L., Graham, J. W., & Levine, A. (1986). Role of health locus of control beliefs and expectations of treatment efficacy in adjustment to cancer. Journal of Personality and Social Psychology, 51, 443-450.

McKechnie, G. E. (1974). ERI Manual: Environmental response inventory. Berkeley, CA: Consulting Psychologists Press.

McNett, S. C. (1987). Social support, threat, and coping responses and effectiveness in the functionally disabled. Nursing Research, 36, 98-103.

O'Connor, B. P., Davidson, H., & Gifford, R. (1991). Window view, social exposure, and nursing home adaptation. Canadian Journal on Aging, 10, 216-223.

O'Connor, B. P., & Vallerand, R. J. (1994). Motivation, self-determination, and person-environment fit as predictors of psychological adjustment among nursing home residents. Psychology and Aging, 9, 189-194.

Roberts, J. G., Browne, G., Streiner, D., Byrne, C., Brown, B., & Love, B. (1987). Analyses of coping responses and adjustment: Stability of conclusions. Nursing Research, 36, 94-97.

Schulz, R., & Decker, S. (1985). Long-term adjustment to physical disability: The role of social support, perceived control, and self-blame. Journal of Personality and Social Psychology, 48, 1162-1172.

Shaw, R. J. (1992). Coping effectiveness in nursing home residents: The role of control. Journal of Aging and Health, 4, 551-563.

Thomasma, M., Yeaworth, R. C., & McCabe, B. W. (1990). Moving day: Relocation and anxiety in institutionalized elderly. Journal of Gerontological Nursing, 16, 18-25.

Trickey, F., Maltais, D., Gosselin, C., & Robitaille, Y. (1993). Adapting old persons' homes to promote independence. Physical and Occupational Therapy in Geriatrics, 12, 1-14.

Turner, R. J., Frankel, B. G., & Levin, D. M. (1983). Social support: Conceptualization, measurement, and implication for mental health. Research in Community and Mental Health, 3, 67-111.

Ulrich, R. S. (1993). Biophilia, biophobia, and natural landscapes. In S. R. Kellert & E. O. Wilson (Eds.), The biophilia hypothesis. Washington, DC: Island Press/Shearwater Books.

Wood, W., Rhodes, N., & Whelan, M. (1989). Sex differences in positive well-being: A consideration of emotional style and marital status. Psychological Bulletin, 106, 249-264.

APPENDIX A: THE CONGREGATE CARE RESIDENCES

ABBEYFIELD ST. ANDREWS HOUSE, Sydney **Constructed** 1986 2-storied **Number/type units:** 9 main-floor bedsits with ensuite Cost varies according to income, from $700-$900 which includes utilities except telephone and pay cable. Services: live-in housemother, lunch and supper **Common areas:** kitchen available to prepare breakfast and snacks, laundry room, lounge with fireplace, sunroom, dining room, bath areas, private patios **General impression:** Economically practical and pleasantly sterile

DOUGLAS CARE COMMUNITY **Constructed** 2-storied main building 1985 houses intermediate care residents, 3-storied Heritage House share common grounds, rental units in 4-floored apartment house across the street. **Number/type units:** 6 bedsits and I -bedroom in Heritage House, 13 1 and 2-bedroom apartments. Cost: $1255 - $1355 for bedsits and $1270 - $1380 for apartments which includes heat, cable Services: I meal, weekly housekeeping and routine maintenance, emergency response, activities, optional meal and laundry packages **Common areas:** dining room, lounge, atrium in main building, residential dining room and coffee room in House, garden sitting area between main building and House. **General impression:** 1950's "at home" in main building and House, pedestrian apartments

NORGARDEN, Sydney **Constructed** 1998 3-storied **Number/type units:** 42 units, studio to 2-bedroom Cost: $1495 to $2600 includes all utilities except telephone Services: breakfast and dinner, housekeeping and heavy laundry, underground parking, security **Common areas:** coffee room, workshop, lounge and dining area, gardening boxes, outdoor gazebo **General impression:** Made to order--tiled courtyards and predictable reception area, wide hallways, pleasant color scheme.

PARKWOOD **Constructed:** 1988 4-storied **Number/type units:** 103 units varying from studios, bachelor (305-5 10 sq.ft.), 1 and 2 bedroom apartments. Cost: $1595 - $2575 includes all utilities except telephone Services: 3 meals plus teas, complimentary w/d for personal laundry, heavy laundry, weekly housekeeping, scheduled minibus **Common areas:** reception lounge, dining room, fireside lounge, crafts room, library, billiards room, TV lounge, beauty salon, gardening program area, exercise room. **General impression:** Posh hotel (grand staircase, elegant dining room and spacious, well-appointed common areas, light-filled units).

ROSEBANK GARDENS **Constructed:** Oct 1996 3-storied. **Number/type units:** Care-a-Minium 41 1 - and 2-bedroom condos and 15 townhouses Cost: average $150,000 Services: 24-hour staffing, I meal, weekly housekeeping, heavy laundry, maintenance **Common areas:** social centre (dining plus activities), hobby room, guest suite, laundry room each floor **General impression:** Architecturally-appealing exterior and interior design; attractive building/land relationships.

ABBEYFIELD - St. John the Divine, Courtenay **Constructed:** Nov 1997 2-storied **Number/type units:** 10 bedsits with ensuites on ground floor Cost: $1190 includes all utilities

except telephone Services: live-in housemother, 3 meals **Common areas:** dining room, 2 lounges, garden patio, bath areas, laundry room **General impression:** Typical Abbeyfield design interpreted with more charm--common areas less like church hall and more invitational.

ABBEYFIELD St. Peters **Constructed:** 1988 2-storied **Number/type units:** 10 bedsits with ensuites Cost: 30% of monthly income (utilities inclusive) plus $436 for services. Services: live-in housemother, lunch and dinner **Common areas:** dining room, use of kitchen for breakfast preparation, bath areas, laundry room, lounge, garden patio **General impression:** Spacious rooms and gracious common areas with attractive patio entrances to each suite.

ABBEYFIELD St. Martins **Constructed:** 1991 2-storied **Number/type units:** 12 bedsits with ensuite and shower Cost: Including utilities varies--sliding scale with $23,000 gross income maximum for acceptance as resident Services: live-in housemother, lunch and dinner **Common areas:** lounge, dining room, kitchen, utility room and bath areas **General impression:** Cosy, home-like atmosphere

HART HOUSE **Constructed:** 1912 4-storied plus attic with conversion to present use about 25 years ago **Number/type units:** 14 bedsits with private bath, each idiosyncratic in design on 2 floors Cost: $1650 - $2200 includes all utilities except telephone Services: 3 meals and teas, weekly housekeeping and laundry, selected excursions, nurse part-time, itinerant personal service specialists, (a canary that sings!) **Common areas:** Dining/living room with fireplace, unexpected nooks for sitting, garden sitting areas **General impression:** Modestly elegant residence with servants.

BEECHWOOD, Sydney **Constructed:** 1990 3-storied **Number/type units:** 107 bachelor, I - and 2-bedroom suites Cost: $1636-$2600 (for I penthouse full kitchen and 2 balconies) inclusive of utilities except telephone Services: 1-3 meals (extra $140), weekly housekeeping, heavy laundry, social activities shuttle bus **Common areas:** dining, lounge, fireside lounge, exercise room, library, craft room, card, room, beauty salon. **General impression:** Country resort, gracious lifestyle. Long hallways combine separate buildings, substantial landscaping.

SOMERSET **Constructed:** July 1989 4-storied H-design **Number/type units:** 13 8 studio, I - and 2-bedroom Cost: $1620 - #3090 including all utilities except telephone Services: evening meal (with additional meals $125 - $175), weekly housekeeping and linen service, scheduled transportation, private mailboxes **Common areas:** indoor lap pool and spa, private diningroom, beauty salon, banking office, laundry rooms each floor, library, greenhouse, chapel, guest suite, travel agency, activity room with full kitchen, physiotherapy room, exercise room, storage, fireside lounge, billiards room, crafts and games room, indoor-outdoor areas each wing to enjoy ocean views. **General impression:** The ultimate.

THE GLENSHIEL **Constructed:** Modest, heart-of-the-city hotel 1908 with most recent addition in 1957 and four renovations since that date **Number/type units:** 68 rooms, single no bath, room semi-private bath, room with bath and 2-room suites Cost: $890 to $2060 inclusive all utilities. Operated by a non-profit housing society. Services: 3 meals, heavy laundry, switchboard. **Common areas:** reception lounge, sitting room, dining room, outside deck, card room, beauty salon and laundry area. **General impression:** Lobby has old-world charm but upstairs narrow, torturous hallways lead to strangled rooms.

BERWICK HOUSE **Constructed:** 1989 4-storied. **Number/type units:** 100 bachelor, I- and 2-bedrooms and a 35-bed care unit on main floor Cost: $1680 - $23 10 including all utilities excepting telephone Services: complete meal service, weekly housekeeping and linen services, shuttle bus, 24-hour nurse, in-house pharmacy and convenience store, security with surveillance cameras. **Common areas:** dining room, laundry room each floor, beauty salon, lounges each floor, games, video and crafts rooms, hobby kitchen, libraries, summer patio dining area, private dining room, fireside lounge, gazebo, gardens for walking. **General impression:** Likely the most harmonious blend of gracious living, level of activities, security and service in the city (even the parking lot is attractive)

CASA LOMA, Courtenay **Constructed:** 1995 2-storied condo structure upgraded to care accommodation **Number/type units:** originally 26 condos with gas fireplaces, w/d and kitchenette in each, now 9 studio and 16.1-bedroom Cost: $1150 - $1265 plus power, heat and telephone Services: scheduled van service, substantial lunch, additional services for fee, on-site caregiver. **Common areas:** Original condo converted to dining room, lounge, kitchen, bathroom, sundeck. **General impression:** Neutral practicality, isolated.

THE KENSINGTON **Constructed:** 1990 4-storied. **Number/type units:** 117 bachelor, I and 2-bedroom units; opposite building enclosing quadrangle landscaped parking area is reserved for seniors without services. Cost: $1635 to $2565 including power, water and heating. Services: 3 meals and teas, weekly housekeeping and linen, additional personal touch services available for fee, scheduled shuttle service. **Common areas:** fireside and entertainment lounges, public and private dining rooms, smoking room, library, beauty salon, horticulture, craft and activity room, billiards, exercise room, laundry rooms, individual mailboxes. **General impression:** Elegant, sophisticated-high-ceilinged reception lobby hung with impressive art, attractive landscaping, well-appointed common areas.

APPENDIX B: THE INTERVIEW SCHEDULES

Interview 1

Date of this interview_____
Intended Residence_____

Introduction:

Hi, I am _____ of Optimal Environments. We talked before about doing this interview, remember? We are trying to understand more about creating the best supportive housing possible. This interview is for research only, and it is sponsored by CMHC, the Canada Mortgage and Housing Corporation. We are interested in the general patterns of answers, not in the answers of any particular person.

Everything you say will be strictly confidential; we will not use your name in our report and we will not pass along what you say to anyone else, including your family, friends, or the staff of the residence, unless you ask us to. If any question is not relevant to you, please tell me. If there are any questions you would rather not answer, just tell me that you would rather not answer.
We really appreciate your help.

Name and Number of Interviewee_____ (need to match them up in interview 2)
Sex____ **Year Born**_____ **Marital Status**: Never married_____ Married (or equiv.)_____
Divorced/Sep_____ Widowed_____
Province of **birth**_____ or **country**, if other than Canada_____

____**Education**: 0=none, 1=some elem, 2=complete grade 7, 3=some HS, 4=complete HS,
5=vocational training after HS, 6=some college/univ, 7= BA/BS 8= more

In your **current residence** (pre-supportive housing) do you do
(4 = all 3= most 2= some 1= none) of the following yourself?:

____cooking
____shopping
____gardening and lawn care
____bills and banking
____dressing
____bathing
____household cleaning
____laundry

If you needed help with any of the above, was there anyone you could count on for help?
yes___ no___ If yes, how many people could you count on?___

Are you an active **member** (now) of any outside group (e.g., church, club, business, etc.)?
yes___ no___ If yes, how many organizations?___

____How would you describe your current level of **health**? (not counting short-term cold, etc.)
4=excellent 3=good 2=fair 1=not very good

How important are these **activities** to you? (4 = very 3 = somewhat 2 = slightly 1 = not)
(Not impt whether they are actually done; idea is whether person would like to do them)

____cards, board games
____active sports (e.g., golf, swimming, cycling, etc.)
____arts and crafts
____cooking
____gardening
____reading
____going for walks
____watching TV
____attending events (church, club, classes, etc.)

Housing (here, pre-supportive):
type: room in house___ floor or region of house___ whole dwelling___
square feet that is "yours alone" (e.g., sq ft of whole house if live there alone,
or of room if house is shared)___

Housing satisfaction (here):
How well does this residence meet your needs for:
(Choices: 4 = Very well 3 = fairly well 2 = not very well 1 = poorly)

____ accessibility to stores and services
____ contacting family and friends
____ personal safety and security
____ doing hobbies and other leisure activities
____ "getting around" (mobility)
____ privacy
____ quiet
____ lighting
____ temperature
____ amount of space
____ food
____ other (what?_____)
____**Overall**, how satisfied are you with this residence?
(10 = "the best!" down to 1 = "the worst!")

Distance from this residence to the supportive residence_____(km or miles)

Life satisfaction now (in this residence): For all these, give a 4 = very satisfied,
3 = somewhat satisfied, 2= somewhat diss, 1= very diss
How satisfied are you with your:

____ Health
____ Major activity (hobby, etc.)
____ Finances
____ Family relations
____ Friendships

Diener life satisfaction scale (7 = strongly agree 6 = agree 5 = slightly agree 4 = neither agree nor disagree
3 = slightly disagree 2 = disagree 1 = strongly disagree)

____ In most ways my life is close to my ideal.
____ The conditions of my life are excellent.
____ So far I have gotten the important things I want in life.
____ If I could live my life over, I would change almost nothing.

Jalowiec coping scale: "When people face problems, challenges, or stress, they try different things. We are interested in the strategies <u>you</u> use. For each thing, tell me if <u>you</u> use that strategy 5 = almost always
4=often 3=sometimes 2=occasionally 1= never when you face problems"

____worry
____cry; get depressed
____work off tension with physical activity
____hope that things will get better
____laugh it off, figuring that things could get worse
____think through the different ways to handle the situation
____eat, smoke, or chew gum
____drink alcoholic beverages
____take drugs
____try to put the problem out of your mind
____let someone else solve the problem
____daydream, fantasize
____do anything just to do something
____talk the problem over with someone who has been in the same type of situation
____get prepared to expect the worst
____get mad, curse, swear
____accept the situation as it is
____look at the problem objectively
____try to maintain some control over the situation
____try to find meaning in the situation
____pray; trust in God
____get nervous
____withdraw from the situation
____blame someone else for your problems
____try out different ways of solving the problem to see which works the best
____take out your tensions on someone or something else

____want to be alone
____do nothing in the hope that the problem will take care of itself
____resign yourself to the situation because things look hopeless
____seek comfort and help from family or friends
____meditation, yoga, biofeedback
____find out more about the situation so you can handle it better
____actively try to change the situation
____resign yourself to the situation because it's your fate
____draw on past experience to help you handle the situation
____break the problem down into "smaller pieces"
____go to sleep, figuring things will be better in the morning
____set specific goals to help solve the problem
____don't worry about it, everything will probably work out fine
____settle for the next best thing

(Provision of Social Relations) Thank you. Next we would like to learn something about your relationships with other people. I will read some statements, and you decide how well each one describes you. The choices are:

5=very much like me 4=much like me 3=somewhat like me
2=not very much like me 1=not at all like me

____When I am with my friends, I feel completely able to relax and be myself.
____I share the same approach to life that many of my friends do.
____People who know me trust me and respect me.
____No matter what happens, I know that my family will always be there for me should I need them.
____When I want to go out to do things, I know that many of my friends would would enjoy doing these things with me.
____I have at least one friend I can tell anything to.
____Sometimes I'm not sure if I can completely rely on my family.
____People who know me think I am good at what I do.
____I feel very close to some of my friends.
____People in my family have confidence in me.
____My family lets me know they think I am a worthwhile person.
____People in my family provide me with help in finding solutions to my problems.
____My friends would take the time to talk over my problems, should I ever want to.
____I know that my family will always stand by me.
____Even when I am with my friends, I feel alone.

OK,
the next questions are about **finances**. We will hold the answers in strictest confidence. As usual, do not feel obliged to answer. We are interested in incomes of the sample in general, not so much that of any one person.

In general, how well do your income and investments currently (i.e., before you move into supportive housing) satisfy your needs? 4=very well 3=adequately 2= fair 1=not well

Looking ahead, how do you think your income and investments will satisfy your needs in the future? (same choices) _____

What was your own total income before income taxes in 1996? (Best est.) $_____

Interviewer rates these:

____Apparent fluency in English (5 = perfect, 3 = fair, 1 = almost non-fluent)

____Apparent hearing, during interview, as corrected
(5 = perfect, 4 = misses occasional word, 3 = misses numerous words, requires voice louder, 2 = requires quite loud voice, still misses some words, 1= communication very difficult due to hearing problem)

____Apparent mobility
(5=perfect 4=slightly slow or unsteady 3=cane 2=walker 1=wheelchair)

Interview 2

Date of this interview_____ Date of previous interview_____
Facility_____ Was last interview done here____ or at previous residence____

Introduction:

Hi, I am _____ of Optimal Environments. We talked before, remember? We are trying to understand more about creating the best congregate housing possible. This interview is a follow-up to see how you are doing now that you have been here for awhile. It is for research only, and it is sponsored by CMHC, the Canada Mortgage and Housing Corporation. We are interested in general patterns across in many different buildings.

Everything you say will be strictly confidential; we will not use your name in our report and we will not pass along what you say to anyone else, including your family, friends, or the staff of the facility. If any question is not relevant to you, please tell me. If there are any questions you would rather not answer, just tell me that you would rather not answer.

Some of the questions will be the same, and some different. I will ask some of the same questions to see whether or not things have changed for you. Overall, this interview will be shorter.

We really appreciate your help.

Name of Interviewee_____ (need to match them up in interview 1)

In this residence do you do (4 = all 3= most 2= some 1= none) of the following for yourself?:
____cooking
____shopping
____lawn/garden
____bills and banking
____dressing
____bathing
____household cleaning
____laundry

If you need help with any of the above, is there anyone you can count on for help?
yes___ no___ If yes, how many people can you count on?___

Are you an active member (now) of any outside group (e.g., church, club, business, etc.)?
yes___ no___ If yes, how many organizations?___

____How would you describe your current level of health? (not counting short-term cold, etc.)

4 = excellent 3 = good 2 = fair 1 = not very good

Are you **able** to engage in the following **activities** here?
(4 = easily 3 = somewhat easily 2 = with some effort 1 = no)
(Not impt whether they are actually done; idea is whether person could do them)
____cards, board games
____active sports (e.g., golf, swimming, cycling, etc.)
____arts and crafts
____cooking
____gardening
____reading
____walking (outside)
____watching TV
____attending outside events (church, club, classes, etc.)
____Other (what?_____)

Housing satisfaction (here):
How well does this residence meet your needs for:
4 = Very well 3 = fairly well 2 = not very well 1 = poorly
____ accessibility to stores and services
____ contacting family and friends
____ personal safety and security
____ doing hobbies and other leisure activities
____ "getting around" (mobility)
____ general appearance (of the building)
____ building upkeep (cleaning and maintenance)
____ size (of the building as a whole)
____ privacy
____ quiet
____ lighting
____ temperature
____ amount of space (in your room/apartment)
____ public spaces and activities (e.g., dining room, lobby, activities room)
____ food
____ staff helpfulness and friendliness
____ residents as friends and supporters
____ other likes or dislikes not on this list? (what?_____)
____ **Overall**, how satisfied are you with this residence? (10 = "best!" down to 1 = "the worst!")

Life satisfaction now (in this residence): For all these, give a 4 = very satisfied,
3 = somewhat satisfied, 2= somewhat diss, 1= very diss
How satisfied are you with your:
____ Health
____ Major activity (hobby, job, etc.)
____ Finances
____ Family relations
____ Friendships

Diener life satisfaction scale (7 = strongly agree 6 = agree 5 = slightly agree 4 = neither agree nor disagree 3 = slightly disagree 2 = disagree 1 = strongly disagree)

____ In most ways my life is close to my ideal.
____ The conditions of my life are excellent.
____ So far I have gotten the important things I want in life.
____ If I could live my life over, I would change almost nothing.

Jalowiec coping scale: "When people face problems, challenges, or stress, they try different things. We are interested in the strategies you use. For each thing, tell me if you use that strategy almost always (5), often (4) sometimes (3) occasionally (2) or never (1) when you face problems"

_*__think through the different ways to handle the situation
____let someone else solve the problem
____get prepared to expect the worst
____look at the problem objectively
_*__try to maintain some control over the situation
_*__try to find meaning in the situation
____get nervous
_*__withdraw from the situation
_*__try out different ways of solving the problem to see which works the best
____want to be alone
____resign yourself to the situation because things look hopeless
____seek comfort and help from family or friends
_*__find out more about the situation so you can handle it better
_*__actively try to change the situation
____resign yourself to the situation because it's your fate
_*__draw on past experience to help you handle the situation
_*__break the problem down into "smaller pieces"
____go to sleep, figuring things will be better in the morning
_*__set specific goals to help solve the problem
____settle for the next best thing

(* items used in the final analyses; see Table 4 and associated text)

(PSR) Thank you. Next we would like to learn something about your relationships with other people. I will read some statements, and you decide how well each one describes you. The choices are:

5=very much like me 4=much like me 3=somewhat like me
2=not very much like me 1=not at all like me

____When I am with my friends, I feel completely able to relax and be myself.
____I share the same approach to life that many of my friends do.
____People who know me trust me and respect me.
____No matter what happens, I know that my family will always be there for me should I need them.
____When I want to go out to do things, I know that many of my friends would would enjoy doing these things with me.
____I have at least one friend I can tell anything to.
____Sometimes I'm not sure if I can completely rely on my family.

____People who know me think I am good at what I do.
____I feel very close to some of my friends.
____People in my family have confidence in me.
____My family lets me know they think I am a worthwhile person.
____People in my family provide me with help in finding solutions to my problems.
____My friends would take the time to talk over my problems, should I ever want to.
____I know that my family will always stand by me.
____Even when I am with my friends, I feel alone.

The unit, and services:

If this facility has a variety of unit designs and sizes, which **extra options** does this person have beyond the basic unit as described on the building sheet (e.g., larger unit, double unit, services for pay)?

Bathroom___ Stove___ Hotplate___ Microwave___ Fridge___ Call button___
Other physical amenities (what?)_____
Extra-fee services_____

____Apparent **mobility** (Interviewer estimate)
(5=perfect 4=slightly slow or unsteady 3=cane 2=walker 1=wheelchair)

This person's **window view** is of: (1 = this alone, 2 = mainly this, 3 = partly this)
(give numbers to as many as apply, although "partly" should not be used for trivial stuff)
___no window to outdoors
___busy street
___quiet street
___commercial buildings
___other houses/apartments
___green space (nature, sideyard, backyard)
___wall of same building

Which floor is this unit on?___ Is it an end-unit (no neighbors on one side)___ or not___?

Square feet of unit____ (or best estimate of dimensions)

Shared with: No one____ Spouse____ Unrelated person____

If low answers, change topic before ending interview...weather, politics, whatever. Try to end on a positive note.

THANK YOU!

Abstract

In a two-phase study, residents who entered congregate care housing were interviewed twice, once just after entry (n = 46) and once about 4 months later (n = 34). Their adjustment was related to numerous personal, social, building, and combination factors. The goal was to begin the development of a residence selection instrument that might maximize adjustment by matching residents and housing. Structural equation modeling showed that adjustment at time 2 was mainly related to age, health, satisfaction with the congregate care housing, family support, the provision of activities important to the resident, and living in an end-unit with a view of nature. These factors accounted for over half the variance in resident adjustment. Thus, these factors are among those that need attention when a resident selects congregate care housing, and they will form a key part of the proposed residence-selection instrument.